



STUDIES

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KNOWLEDGE AND ATTITUDES ABOUT AIDS AMONG NORTH CAROLINA ADULTS

by

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ABSTRACT

Findings on knowledge and attitudes about AIDS are presented from a 1987 telephone survey of 600 randomly chosen North Carolina adults. AIDS-related knowledge in this population was found to have been largely obtained through the news media. Furthermore, the displayed level of understanding about transmission of the virus was somewhat higher than knowledge related to some of the common myths about AIDS. The amount of formal education was consistently a strong positive predictor of both types of knowledge. Although AIDS was rarely seen as an immediate, personal threat to these adults, the need for continuing AIDS education, particularly among school age children, was strongly endorsed.

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INTRODUCTION

Within the past decade acquired immune deficiency syndrome (AIDS) has leaped from obscurity to a point where, if left unabated, it could become one of the significant public health problems of this century (1). The absence of a cure and effective medical treatment makes prevention, the result of knowledge and subsequent behavior modification, the only real defense presently available to combat this deadly disease. As a result, recent federal efforts aimed at AIDS prevention have placed a heavy emphasis on health education as a first step in that direction. (2)

Efforts to improve the public's understanding on AIDS must begin with an assessment of current knowledge and prevailing attitudes so that future awareness programs can more effectively target information needs. To date most published findings on knowledge and attitudes about AIDS have come from studies of homosexual men (3-5), adolescents (6,7), and health care workers (8,9). The only known published assessment of knowledge and attitudes about AIDS among members of the general population was done in a multi-survey study using nonrandom samples chosen in San Francisco, New York and London (10). However, preliminary findings on a series of AIDS knowledge questions recently added by the National Center for Health Statistics to the National Health Interview Survey have been reported (11). The Centers for Disease Control has also added a series of AIDS-related questions to surveys in eight states participating in the Behavioral Risk Factor Surveillance System (12).

This paper presents findings from a study designed to better understand the level and predictors of knowledge among adults in North Carolina, based on a scientifically chosen random sample of that population.

METHODS

A telephone survey averaging 10 minutes in length was completed by 600 randomly chosen non-institutionalized adult residents (18 years and older) of North Carolina between March 15 and April 4, 1987. Interviews were conducted by students who had been specially trained as part of a graduate-level course in survey research methods.

Each sample household, from which one eligible adult was picked at random, was selected following a

stratified version of the two-stage random digit sampling design described by Waksberg (13). Eight sampling strata were formed by the cross-classification of state regions (Western, North Central, South Central, and Eastern) and the county-level relative density of blacks within region (high and low) so that households in areas with higher concentrations of blacks could be oversampled. Assuming that 66 percent of "no answers" are eligible households, the percentages of all eligibles who responded is estimated to have been 63 percent and who refused 15 percent (14).

All reported findings of our analysis of the data from this survey reflect the complexity of the sampling design. The two programs we used, SESUDAAN to estimate the frequency distributions of categorical response variables and RTILOGIT to estimate coefficients of assumed logistic regression models, produce weighted estimates and utilize the Taylor linearization approach to generate associated standard errors. (15-16) Data from the survey were weighted to reflect differential sampling probabilities and to compensate for various common deficiencies dealt with in survey practice.

The interview in this survey covered a wide range of issues related to knowledge and attitudes about AIDS. Each question is defined and categorized in the appendix. The sequence of questions does not correspond to the precise order in which they were asked in the survey interview. Except where otherwise indicated, response categories for questions were "yes," "no," and "don't know." For regression analysis, most knowledge variables were recoded to assume the value "1" if the answer was correct according to prevailing evidence, and "0" if otherwise. Likewise, a "yes" response to the opinion questions used in these analysis was set to "1" and any other response to "0."

Nonresponse was minimal for the individual items used in our analysis. Except for the variables, CONDOM and FEWMATES with three and four item nonresponses respectively, the knowledge items had no more than one of the 600 respondents with missing data. Most of the attitude variables, which were asked toward the end of the interview, had four item nonresponses, all due to partial interviews. All but one of the respondent characteristics (except GRADE with nine) had fewer than five item nonresponses.

RESULTS

Descriptive Analysis

Some descriptive findings on the major sources of health-related knowledge are presented in Table 1, which contains weighted estimates of the percent distributions of responses to a question on AIDS information (AIDSINFO) and a comparable question on more general medical information (MEDINFO). Because of the closeness of these two questions in the interview, the types of information they addressed were probably considered to be mutually exclusive by survey respondents. Technically this is not true since AIDS information is subsumable under the rubric of "general medical information."

Broadcast and written media together were found to be the main source of information on AIDS for 90 percent of North Carolina adults. By contrast, we estimated that 74 percent of adults in the state would see the media as their primary source of general health information. This 16 percent difference can be explained by noting that 63 percent of adults saw television as their principal source of AIDS information, while only about 47 percent relied mainly on television for more general health-related knowledge.

A number of other impressions can be drawn from Table 1. First, television was clearly the top choice for both types of information, followed next by newspapers and then closely thereafter by magazines and journals. Radio occupied a very distant fourth place. Second, doctors and nurses appeared to play a more important role in conveying general medical knowledge than knowledge about AIDS (19 percent versus 1 percent). Finally, local health departments were not considered to be a major source of either type of information in this population.

Weighted estimates of the percent distribution for responses to several knowledge and attitude questions are presented in Table 2. Analysis of the first group of questions, testing an individual's knowledge about transmission of AIDS, revealed a high level of understanding about this dimension of the disease. The estimated percentages of correct ("yes") answers ranged from 87 to 97 percent; the highest percentages indicated for transmission through heterosexual contact. North Carolina adults appeared to be somewhat less knowledgeable about prenatal transmission of the AIDS virus and about the efficacy of prevention through safer sexual practices (e.g., by using condoms or reducing the number of sex partners).

Several questions in the survey dealt with a number of the common myths about AIDS, although all have to do with transmission of the AIDS virus as in the previous group. For this group of items percentage estimates of the correct answer ("no"), ranging from 57 to 84 percent, were in all cases somewhat lower than estimates for questions concerning the known modes of transmission. Estimates of the percentage of "don't know" answers were also generally higher for the myths items than the previous group of items (6-15 percent for myths versus 2-10 percent for transmission). The most important fallacies in this population appear to be those dealing with transmission through using the same toilet seat, giving blood, a mosquito bite, or sharing food.

The first of two groups of opinion questions addressed the need for education. The clear message from these questions is that education is seen as being important in dealing with AIDS. For example, it is estimated that a majority of North Carolina adults with an opinion (49 to 44 percent) believed that not enough is being done to educate the public. In addition, more than 90 percent of the adults in this population favored some form of education about AIDS in both junior and senior high schools.

Another series of questions in the survey dealt with the respondents' attitude about the closeness of the AIDS problem to themselves. Four levels of proximity were used: the state, the respondent's community, the respondent's acquaintances, and the respondent himself or herself. Findings seem to indicate an inverse relationship between the perceived threat of AIDS and the closeness of the reference group, since in general the percentage estimate for a "yes" response drops as one moves from the state level (72 percent for NCPROB) down to the respondent level (16 percent for SELF). The anomalous increase from 24 percent at the community level (TOWNPROB) to 38 percent at the acquaintances level (ANYONE) may be due to the wording of the questions in this group. The first two questions refer to the AIDS "problem," a concept perhaps seen as somewhat less immediate and therefore less likely to be answered in the affirmative than the "threat" of AIDS mentioned in the last two questions.

The final group of survey items in Table 2 deal with the perceived threat of AIDS in health care facilities. Estimates from one of these questions indicated that a high percentage of North Carolina adults (83) are concerned about getting AIDS from a blood transfusion in hospitals. By contrast we

estimate that only 21 percent of these same adults see any increased risk of AIDS for those professionals who treat people with AIDS. The message here may be that hospital patients requiring transfusions as part of their treatment see greater potential danger for themselves than for staff physicians and nurses, even those providing care directly to persons with AIDS.

Regression Analysis

Findings for a portion of the logistic regression analyses performed with the data are presented in Table 3. The dependent variables used in the regression models differ somewhat as to intent. Based on the presumption that a "passing mark" on each group of seven questions is five or more correct answers, the variables TRANSMIT and MYTHS are intended to serve as summary measures of performance for the two categories of knowledge questions. In addition, one of the variables from each category (CONDOM and CLSMATE) was chosen for presentation, based on its strength of prediction in the model and on the relevance of the question as a current public health issue. The constructed variable PATTERN was designed to identify those respondents whose sequence of responses to the questions on perceived proximity of the AIDS problem (NCPROB, TOWNPROB, ANYONE and SELF) indicated a tendency to discount the problem as the questions' frames of reference became closer to them personally.

Although nonresponse on the groups of variables combined for each regression model was somewhat greater than on individual items, regression analysis sample sizes were still between 585 and 587 (out of 600 survey respondents) and there was no indication that item-level nonresponse introduced a significant biasing effect. For each pairing of dependent and independent variables used in these models correlation coefficients were virtually identical, whether all available respondent data on each pair were used to compute the coefficients, or just data for those respondents with data for all variables in the model.

Of all of the independent variables considered, the amount of formal education consistently displayed the strongest association with knowledge about AIDS in these main effects models. Values of the coefficient for GRADE in Models A-D indicate that the relationship is direct and somewhat similar for each of the four dependent variables. For each summary measure of knowledge the odds of "passing" increase by about 30 percent for each additional completed year in school. Increments of similar size

are estimated for the odds of knowing the efficacy of condoms and the relative risk of acquiring AIDS by attending school with infected children. These findings seem reasonable since understanding the issues raised by these variables would seem to be enhanced by a general understanding of certain biological phenomena that are more likely to be explained as one progresses through elementary and secondary school and then college.

The effect of age on these measures of knowledge about AIDS is not as strong and runs counter to the effect of education. The direction of the association, although not statistically significant for CONDOM, is clearly negative, indicating that knowledge generally diminishes with increased age. For the summary measures of knowledge, the odds of a passing mark decreased at the rate of 2 to 5 percent per year of adulthood. For CONDOMS and CLSMATE the corresponding rate of decrease was 2 to 3 percent per year. The negative effect of age can be explained if one accepts the unproven hypotheses that sex with multiple partners diminishes with age and that the perceived threat of AIDS is directly related to the frequency with which one changes partners.

Because of the recent public issue about allowing children with the AIDS virus to attend elementary and secondary school with noninfected children, a special supplement to Model C was run in which the independent variable AGE was replaced by one indicating the presence of school age children in the respondent's household. Since there was no direct question in the survey about children in school, we used a proxy indicator SCHKIDS which assumes that adults with children in school are most likely to be between the ages of 25 and 55 (see Appendix). Findings revealed that, all else fixed, the odds of a correct response for CLSMATE are about 60 percent lower for adults with school age children than for adults without them. This result may not indicate greater ignorance about AIDS among adults who send their children to school but rather an added degree of parental caution or even perceived vulnerability because family members may be exposed to AIDS.

The source of information about AIDS had a somewhat varied impact on knowledge. Estimates in Table 3 indicate that utilizing the broadcast media as the main source of AIDS information is more strongly associated with knowledge of transmission than with knowledge about common myths. The significant effect of BROAD in Models A and B implies a roughly four-fold increase in the odds of knowledge about transmission when television or

radio are the major source of information, as opposed to when they are not. For knowledge about AIDS myths the effect of BROAD is considerably smaller and not significant statistically. The effect of the written media as the principal source of AIDS information is statistically significant for three of the four knowledge models. The odds of knowledge are generally 2.5 to 3.0 times as great for those depending on newspapers, magazines and journals for most information than for those who get most of their information elsewhere. The more consistent effect of WRITTEN in these models might be explained by the ability of the printed media to cover all issues in greater depth and thereby to greater understanding by the reader.

The marital status of North Carolina adults appears to figure more prominently in their knowledge of transmission of AIDS than in their understanding of various myths about AIDS. Married adults generally display higher levels of knowledge than those not married, a discouraging fact from a public health perspective given the greater likelihood that unmarried adults will have more sexual partners than married adults. Significant positive effects are reported for the transmission variables, implying that the odds of knowledge are 1.7 to 2.6 times as great for marrieds than for those not married. One possible explanation for this finding is that there is a certain denial of the risk involved in certain practices among those more likely to engage in them (e.g., unprotected sex with multiple partners).

Neither race nor gender seems to have a very strong or consistent effect on knowledge about AIDS. Findings generally associate increased odds of knowledge with being white and female, although none of these effects were statistically significant. There are two exceptions to this pattern. One is that race is a moderately significant predictor of knowledge about the use of condoms to prevent AIDS. The odds of knowing about condoms are slightly more than twice as great for whites than nonwhites. The other exception is the effect of gender for a passing mark on the set of myths questions is positive, indicating somewhat greater knowledge by males.

Compared to the findings on knowledge the assessment of results concerning the perceived proximity of the AIDS threat revealed some similarities and some differences. As with knowledge, education had a positive effect on PATTERN, although the size of the effect is lower than with knowledge. The odds of an adult having the tendency to see the AIDS problem as being somewhat removed

from them personally increased by about 10 percent for each year of school that had been completed. Also, the odds of observing this distancing tendency were notably higher (and statistically significant) for those who are white and married. The odds of observing this pattern of responses for the comparisons of racial groupings and marital status increased by a factor of about 1.7 for each comparison. Finally, as with knowledge, the odds of distancing is relatively higher for females than males, although the effect of gender is not statistically significant. Among the notable dissimilarities between results for Model E and the other models was the relative unimportance of media sources and age in predicting the outcome of PATTERN.

This study may shed some light on the role that knowledge plays in creating a psychological "buffer" between individuals and the AIDS problem. With knowledge comes the realization that AIDS is preventable and that certain segments of the population are relatively safe (e.g., monogamous non-drug injecting heterosexual couples). If the adult is a member of one such segment, there may be a greater tendency to perceive AIDS as one of society's problems and not a personal threat to that individual or his friends. This assertion is supported by reported findings from regression analyses which showed GRADE, a strong predictor of knowledge of AIDS, to be a major determinant of constructed distancing pattern. Likewise, one notes by observing the sign of estimated coefficients in the five models that, except for AGE, the same demographic groups with greater knowledge about AIDS also tend to distance the problem from themselves. Perhaps the most direct evidence of our assertion come from findings for two unreported regression models where we substituted MYTHS and TRANSMIT for GRADE in Model E. These separate analyses confirm the important role that knowledge, especially that which would dispel myths, plays in the distancing phenomenon.

DISCUSSION

Measurement Implications

In virtually all population-based research studies the nature of the measurement process must be carefully considered in the interpretation of findings. In the study, for instance, the wording of the questions on sources of general medical and AIDS-related information, affecting MEDINFO, AIDSINFO, BROAD and WRITTEN, has some bearing on how one views the contents of Tables 1 and 3. Caution must be used here since the survey

questions on sources of information asks where the respondent had acquired "most" of his or her information. Thus the distribution of responses to these questions may not reflect the frequency with which those sources are utilized for the two types of information.

Nonspecificity in the survey's questions on AIDS education and the lack of a clear public consensus on how AIDS awareness programs should be implemented also forces us to exercise some care in interpreting results of some of the descriptive analyses presented in Table 2. Concerning the variables HSED and JRHIED, for example, there are likely to be differences of opinion in this population about the content of AIDS education aimed at adolescents. Should sex education or abstinence be emphasized in an awareness program? Focusing the school education questions on either of these remedies almost certainly would have diminished the generally favorable view of education since few people are likely to favor both.

Since some of the respondents to the knowledge questions in this survey may have guessed at an answer rather than admit ignorance, the effect of correctly guessed answers must also be considered in assessing the implications of the findings presented in Tables 2 and 3. One possibly reasonable approach for determining the bias implication of this type of measurement error is to assume for all knowledge questions that the percentage of "don't know" responses is directly related to the percentage of those having no knowledge but answering "yes" or "no." The basis for this assumption is in two related conjectures, one that the amount of "don't know" reporting mirrors the collective degree of uncertainty as to the correct answer and the other that some persons when confronted by uncertainty will hazard a guess in the hope of giving the correct answer and avoiding the embarrassment of having to admit ignorance. Given that the assumption is correct, the estimated percent of adults answering correctly would be overstated by an amount that is generally greater for questions on myths than for those on transmission.

Published Findings from Other Surveys

While the issue of comparability precludes a completely satisfactory comparison of findings from previous surveys dealing with knowledge and attitudes about AIDS, there is some evidence to indicate that the findings presented for North Carolina adults in Table 2 are for the most part similar to those

published elsewhere. Perhaps the most direct comparisons possible are with some preliminary descriptive findings using data obtained from a supplement to 2,103 in-person interviews conducted with adults as part of the August 1987 National Health Interview Survey. (11)

Although the authors of the NHIS study note that the final figures may differ from those they report, findings from this NHIS supplement generally mirror those reported from this survey. As with AIDSINFO in Table 1, the news media are most frequently the main source of information about AIDS, although the actual NHIS percentage estimates for television are somewhat lower for television and a bit higher for newspapers. Among the 12 comparable percentage estimates for correct answers to the knowledge questions in Table 2, only four differences between NHIS and this survey exceeded 10 percentage points. The 17 point higher percentage estimate from NHIS for adults who believe that there is no cure for AIDS (compared with CURE in our survey) may be an artifact of the more negative orientation of the NHIS question which asks for a true-false response to the statement: "There is no cure for AIDS at present." The lower percentages (14-20 points) of correct responses to NHIS questions comparable to those producing FOOD, ATWORK and BUGBITE in Table 2 may be partially explained by differences in question format. For example, some of the qualified incorrect responses in NHIS (i.e., "somewhat likely" to a question on whether one can acquire AIDS by working with someone with AIDS) might have been given as correct responses if our two-category to these questions had been used in NHIS.

A recent survey of high school students in San Francisco indicates some difference in knowledge and attitudes between the 14-18 year old adolescents in that study and the adults in this survey. Of the eight knowledge variables in Table 2 for which there was suitable comparability, the percentage correct response figures for four of them differed by more than 10 points from those presented in the high school study. All of the differences, the largest of which was on the use condoms to prevent AIDS, can be explained by the larger percentage of "don't know" responses in the San Francisco study, attributable to the use of a self-administered questionnaire, where all response categories are listed for respondents. Responses to the only reasonably comparable attitude question in the two surveys also differed somewhat, although here the frequency of "don't know" does not fully explain the disparity of findings. Estimates for a question on

the respondent's fear of contracting AIDS, when compared with findings for SELF in the current survey, may point to far greater fear of AIDS by adolescents than by adults. Seventy-nine percent of the responding teenagers in the San Francisco study agreed that they are "afraid of getting AIDS," while we estimate that only 16 percent of North Carolina adults see AIDS as a threat to them personally. Five percent of the respondents in the former study responded "don't know" to the question.

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TABLE 1

**Descriptive Profile of the Main Sources of Health Information
Based on a 1987 Survey of 600 North Carolina Adults**

| Main Source of Information | Estimated percent distribution ¹ | |
|----------------------------|---|----------------------|
| | AIDSINFO ² | MEDINFO ² |
| Television | 63 [4.3] | 47 [2.5] |
| Radio | 1 [0.9] | 1 [0.5] |
| Newspapers | 16 [3.6] | 14 [1.7] |
| Magazines and journals | 10 [2.8] | 12 [1.6] |
| Local health departments | 1 [1.0] | 1 [0.5] |
| Doctors and nurses | 2 [1.2] | 19 [2.1] |
| Pharmacists | 0+ [0.7] | 0+ [0.3] |
| Friends and relatives | 2 [1.1] | 3 [0.8] |
| Other | 5 [2.0] | 3 [0.7] |

¹Standard errors of estimated percentages are presented in brackets.

²"0+" means that the estimate is greater than zero but less than 0.5 percent.

TABLE 2

Descriptive Profile of Knowledge and Attitudes about AIDS
Based on a 1987 Survey of 600 North Carolina Adults

| Variable ² | Estimated percent distribution ¹ | | |
|---|---|----------|------------|
| | Yes | No | Don't know |
| Knowledge about transmission Percentage answering > 4 questions correctly = 95 [1.0] | | | |
| USERS | 92 [1.2] | 3 [0.7] | 5 [0.9] |
| GAYS | 94 [1.0] | 1 [0.5] | 5 [0.9] |
| BABES | 87 [1.6] | 3 [0.9] | 10 [1.4] |
| FSEX | 97 [1.4] | 1 [0.8] | 2 [1.2] |
| MSEX | 97 [1.4] | 1 [0.8] | 2 [1.2] |
| CONDOM | 88 [1.6] | 6 [1.3] | 6 [1.0] |
| FEWMATES | 87 [1.5] | 8 [1.5] | 5 [0.9] |
| Knowledge related to common myths Percentage answering > 4 questions correctly = 68 [2.2] | | | |
| CLSMATE | 11 [1.5] | 76 [1.9] | 13 [1.4] |
| BUGBITE | 24 [1.9] | 61 [2.4] | 15 [1.6] |
| DONOR | 35 [2.5] | 59 [2.6] | 6 [1.1] |
| FOOD | 18 [1.8] | 68 [2.2] | 14 [1.4] |
| HANDS | 10 [1.6] | 84 [1.8] | 6 [1.0] |
| ATWORK | 9 [1.4] | 85 [1.6] | 6 [1.0] |
| TOILET | 32 [2.4] | 57 [2.4] | 11 [1.4] |
| Attitude about the need for education | | | |
| EDUC | 44 [2.6] | 49 [2.5] | 7 [1.1] |
| HSED | 95 [2.3] | 4 [2.1] | 1 [1.0] |
| JRHIED | 91 [2.9] | 6 [2.6] | 3 [1.3] |
| Attitude about the proximity of the AIDS problem | | | |
| NCPROB | 72 [2.0] | 16 [1.8] | 12 [1.6] |
| TOWNPROB | 24 [2.2] | 65 [2.4] | 11 [1.5] |
| ANYONE | 38 [4.2] | 58 [4.2] | 4 [1.8] |
| SELF | 16 [3.8] | 83 [3.8] | 1 [0.8] |
| Perceived threat of AIDS in health care facilities | | | |
| TRANSFU | 83 [1.6] | 15 [1.6] | 2 [0.6] |
| CARERS | 21 [1.8] | 65 [2.2] | 13 [1.5] |

¹Standard errors of the estimated percentages are presented in brackets.

²See Appendix for definitions.

TABLE 3

**Logistic Regression Coefficients for Models on
Knowledge and Attitude about AIDS Based on a
1987 Survey of 600 North Carolina Adults¹**

| | Dependent Variable | | | | |
|-----------------------|--------------------|----------|----------|----------|----------------------|
| | Transmission | | Myths | | PATTERN ² |
| | CONDOM | TRANSMIT | CLSMATE | MYTHS | |
| | (A) | (B) | (C) | (D) | |
| N (Sample size) | 585 | 587 | 586 | 587 | 587 |
| R (Model correlation) | 0.405 | 0.444 | 0.379 | 0.353 | 0.160 |
| Intercept | 0.106 | 2.164 | 0.451 | 0.073 | 0.071 |
| (1) BROAD | 3.770*** | 4.259** | 1.616 | 1.822 | 1.203 |
| (2) WRITTEN | 3.013** | 2.487 | 2.930** | 2.445** | 1.111 |
| (3) WED | 1.745* | 2.560** | 1.519 | 1.073 | 1.740** |
| (4) RACE | 2.171* | 1.323 | 1.158 | 1.139 | 1.744** |
| (5) AGE | 0.980 | 0.956*** | 0.969*** | 0.981*** | 1.009 |
| (6) GRADE | 1.335*** | 1.283*** | 1.254*** | 1.323*** | 1.107*** |
| (7) GENDER | 0.984 | 0.911 | 0.677 | 1.148 | 0.838 |

¹The reported coefficient minus 1, and then multiplied times 100, can be interpreted as an estimate of the relative change (in percent) of the odds of observing the attribute associated with the dependent variable, given a one unit increase in the effect associated with the coefficient and conditioning on the outcomes of the other independent effects. For example, all else constant, we estimate from the survey that the odds of a North Carolina adult knowing about the preventive efficacy of condoms during sexual intercourse are about 75 percent [$74.54 = 100 (1.74 - 1)$] as high if that person is married than if not. Another way of saying the same thing is that the odds of knowing about the preventive efficacy of condoms are about 1.75 times as great if an adult is married than if an adult is unmarried.

²Estimated percent mean = 46 percent (standard error = 2.4 percent).

Key to significance level of effects:

* implies $0.1 \geq p > 0.05$

** implies $0.05 \geq p > 0.01$

*** implies $0.01 \geq p$

APPENDIX

DEFINITIONS OF QUESTIONNAIRE ITEMS IN THE KNOWLEDGE AND ATTITUDE SURVEY OF NORTH CAROLINA ADULTS

| Variable | Interview item (Categories used for regression analysis) |
|--------------------------------------|--|
| Sources of knowledge | |
| | Lead-in 1: People get information about health and medical issues from a variety of sources. Some of these are: (interviewer reads list of response categories). |
| AIDSINFO | Where have you gotten most of your information on AIDS? |
| BROAD | Recode of AIDSINFO (1=broadcast media; 0=other) |
| WRITTEN | Recode of AIDSINFO (1=written media; 0=other) |
| MEDINFO | Where do you get most of your information on general health and medical issues? |
| Knowledge about transmission* | |
| | Lead-in 2: I'm going to mention some groups of people and I'd like you to tell me if you think they would be more likely to get AIDS than others. How about: |
| USERS | Drug users who share needles? (Y/N,DK: 1=yes; 0=no or don't know) |
| GAYS | Men who have sex with other men? (Y/N,DK) |
| BABES | Babies born to mothers who have AIDS? (Y/N,DK) |
| | Lead-in 3: I'm going to mention some situations, and I'd like you to tell me if you think they might cause a person to get AIDS. |
| FSEX | How about <i>woman</i> having sex with a man who has the AIDS virus? (Y/N,DK) |
| MSEX | How about a <i>man</i> having sex with a woman who has the AIDS virus? (Y/N,DK) |
| | Lead-in 4: I'm going to list some things that some people have done to lower their chances of getting AIDS. I'd like you to tell me in each case if you think the step will help to protect them. How about: |
| CONDOM | Using condoms during sexual intercourse? (Y/N,DK) |
| FEWMATES | Having fewer sexual partners? (Y/N,DK) |
| TRANSMIT | 1=more than 5 correct answers to this group of transmission questions; 0=otherwise |

*The correct answer, based on the prevailing view in the research literature, was set equal to one for the individual knowledge items in this group that were used in the regression analysis. Any other response was set to zero.

APPENDIX (continued)

DEFINITIONS OF QUESTIONNAIRE ITEMS IN THE KNOWLEDGE AND ATTITUDE SURVEY OF NORTH CAROLINA ADULTS

| Variable | Interview item (Categories used for regression analysis) |
|---|---|
| Knowledge related to common myths* | |
| CLSMATE | Lead-in 2: Children who attend school with a child who has AIDS? (N/Y,DK: 1=no; 0=yes or don't know) |
| BUGBITE | Lead-in 3: Do you think people can get AIDS from mosquito bites? (N/Y,DK) |
| DONOR | How about: Giving blood at the Red Cross? (N/Y,DK) |
| FOOD | Eating food prepared by someone who has AIDS? (N/Y,DK) |
| HANDS | Shaking hands with a person who has AIDS? (N/Y,DK) |
| ATWORK | Working alongside a person who has AIDS? (N/Y,DK) |
| TOILET | Sitting on a toilet seat used by someone who has AIDS? (N/Y,DK) |
| MYTHS | 1=more than 4 correct answers to the myths questions; 0=otherwise |
| Attitude about the need for education | |
| EDUC | Do you think enough is being done to educate the public about AIDS? (Y/N,DK) |
| HSED | Do you think <i>high schools</i> should provide information about AIDS? |
| JRHIED | How about <i>junior high schools</i> ? |
| Attitude about the proximity of the AIDS problem | |
| NCPROB | Do you think AIDS is currently a problem in North Carolina? (Y/N,DK) |
| TOWNPROB | Do you think AIDS is currently a problem in your community? (Y/N,DK) |
| ANYONE | Do you see AIDS as a threat to people you know? (Y/N,DK) |
| SELF | Do you see AIDS as a threat to you personally? (Y/N,DK) |
| PATTERN | (1=pattern of responses to [NCPROB,TOWNPROB,ANYONE,SELF] is [+,-,-,-], [+,+,-,-] or [+,+,+,-], where "+" implies a "yes" response and "-" any other response; 0=any other pattern of responses) |

*The correct answer, based on the prevailing view in the research literature, was set equal to one for the individual knowledge items in this group that were used in the regression analysis. Any other response was set to zero.

APPENDIX (continued)

DEFINITIONS OF QUESTIONNAIRE ITEMS IN THE KNOWLEDGE AND ATTITUDE SURVEY OF NORTH CAROLINA ADULTS

| Variable | Interview item (Categories used for regression analysis) |
|---|---|
| Perceived threat of AIDS in health care facilities | |
| TRANSFU | If you received blood at a hospital, would you be concerned about getting AIDS? |
| CARERS | Lead-in 2: Doctors or nurses who take care of AIDS patients? |
| Respondent characteristics | |
| AGE | Age in years at last birthday birthdate (continuous) |
| WED | Marital status (1=married; 0=not married) |
| SEX | Gender (1=male; 0=female) |
| RACE | Racial category (1=white; 0=nonwhite) |
| GRADE | What is the last grade you completed in school? (continuous) |
| KIDS | Do you have children? (1=yes; 0=no) |
| SCHKIDS | Indicator of the presence of school age children in the respondent's home (1 if $25 \leq \text{AGE} \leq 55$ and $\text{KIDS}=1$; 0 if otherwise) |

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